CORRESPONDENCE/MEMORANDUM

State of Wisconsin

Signed

DATE: May 14, 2004

Insert: CHAPTER 10
Waterway and Wetland Handbook

TO: Water Management Specialists
Water Management Engineers
Regional Aquatic Habitat Experts
Bureau of Fisheries Management and Habitat
Protection – Rivers and Habitat Protection Section

SUBJECT: Guidance for the Establishment of Protective Areas for Wetlands in Runoff Management Rules, Wisconsin Administrative Code NR 151

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Summary of Guidance

NR 151.12(5)(d) Protective areas.

Chapter NR 151, Wis. Adm. Code, establishes runoff pollution performance standards for non-agricultural facilities and transportation facilities and performance standards and prohibitions for agricultural facilities and practices designed to achieve water quality standards.

Protective areas are established to minimize impacts from runoff coming from developed areas before it reaches sensitive resources. The protective area begins at the delineated boundary of the wetland. The width of the protective area is measured horizontally from the nearest edge of the wetland to the nearest edge of an impervious surface. Special restrictions exist in protective areas to allow them to filter runoff and reduce the potential for adverse impacts to wetlands. For wetlands, the size of the protective area is based upon the location, type and condition of the wetland. There are three protective area categories:

Category 1: 75 feet
A protective area width of 75 feet is established for wetlands in areas of special natural resource interest, as defined in NR 151.12 (5)(d)1.a, Adm. Code. Wetlands in areas of special natural resource interest include wetlands both within boundaries of designated areas of special natural resource interest and those wetlands that are in proximity to or have a direct hydrologic connection to such designated areas. Wetlands that have a groundwater or surface water connection to an area of special natural resource interest are treated as Category 1 wetlands. The following are the designated areas of special natural resource interest in NR 103.04:

(1)Cold water communities as defined in s. NR 102.04(3)(b), including all trout streams and their tributaries and trout lakes;

(2) Lakes Michigan and Superior and the Mississippi river;

(3) State and federal designated wild and scenic rivers, designated state riverways and state designated scenic urban waterways, s. 30.26, Stats., ch. NR 302, 16 USC 1271 to 1287, ss. 30.40 to 30.49, Stats., and s. 30.275, Stats.;

(4) Unique and significant wetlands identified in special area management plans (SAMP), special wetland inventory studies (SWIS), advanced delineation and identification studies (ADID) and areas designated by the United States environmental protection agency under s. 404(c), 33 USC 1344 (c);

(5) Calcareous fens;

(6) Habitat used by state or federally designated threatened or endangered species, s. 29.604, Stats., ch. NR 27 and 16 USC 1531 to 1543;

(7) State parks, forests, trails and recreation areas;

(8) State and federal fish and wildlife refuges and fish and wildlife management areas;

(9) State and federal designated wilderness areas (16 USC 1131 to 1135 and s. NR 1.415);

(10) Designated or dedicated state natural areas established under ss. 23.27 to 23.29, Stats.;

(11) Wild rice waters; and

(12) Any other surface waters identified as outstanding or exceptional resource waters in ch. NR 102.

Category 2: 50 feet

Category 2 includes wetlands that are called "highly susceptible wetlands", which require a protective area width of 50 feet pursuant to s. NR 151.12(5)(d)1.d., Adm. Code. Highly susceptible wetlands include the following wetland plant community types: fens, sedge meadows, bogs, low prairies, fresh wet meadows, shallow marshes, deep marshes, seasonally flooded basins, conifer swamps, shrub swamps and other forested wetlands. This category includes most of the wetland types found in Wisconsin. A special rare wetland type, calcareous fens, is included in Category 1 as a wetland in an area of special natural resource interest.

Category 3: 10% of the Average Wetland Width – 10 to 30 feet
This category is designated for wetlands considered "less susceptible" that require a protective area width of 10% of the average wetland width, but not less than 10 feet nor more than 30 feet pursuant to s. NR 151.12(5)(d)1.e., Adm. Code. These wetlands include significantly degraded wetlands that are dominated by invasive species such as reed canary grass (*Phalaris arundinacea*). Although NR 151 lists only reed canary grass, other invasive species may significantly degrade wetlands. Purple loosestrife (*Lythrum salicaria*) and non-native strains of common reed grass (*Phragmites australis*) are also common, widespread invasive plant species found in wetlands. To be considered dominated by invasive species means the wetland contains over 90% of the species as measured by percent vegetative cover.

Average Wetland Width
The following procedure is recommended for calculating the average width of a wetland:

Step 1. Draw a centerline that runs across the long axis of the wetland. This is not necessarily a straight line but one where half of the wetland area is located on each side of the centerline.

Step 2. Make at least 5 individual measurements across the wetland that are perpendicular to the centerline established under step 1. Enough measurements shall be taken to establish a representative average wetland width. These measurements shall be made equidistant apart along the centerline established under step 1. If the wetland has a configuration with a relatively long narrow strip that is connected to a much broader area, then the wetland area calculation may be broken up into separate areas with the average wetland width established for each separate area.

Step 3. The wetland's average width shall be the arithmetic average of the individual measurements taken under step 2.

Attachment 1 is an example calculation titled *Calculating Wetland Width.*

Determining the Wetland Category
Category 1 wetlands are generally determined by their location in or adjacent to special designated areas. For instance, a wetland hydrologically connected to a trout stream or adjacent to Lake Michigan is a Category 1 wetland. A locational exception is calcareous fens, a type of wetland plant community found in areas of upwelling, mineral-rich water. These wetlands are rare and can be identified by the vegetative species found growing in them. Examples of common plants that occupy calcareous fens include shrubby cinquefoil (*Pentaphylloides floribunda*), wild timothy (*Muhlenbergia glomerata*), Ohio goldenrod (*Solidago ohioensis*) and lesser fringed gentian (*Gentianopsis procera*).

Most wetlands will fall into Category 2. Wetland community types can be determined by using Attachment 2, *Key to the Wetland Plant Communities*, from Eggers and Reed, 1997. Guides

such as *Wetland Plants and Plant Communities of Minnesota & Wisconsin*, US Army Corps of Engineers, 1997, further describe wetland plant communities and typical plants found within those communities and are helpful in classifying wetland types.

In some cases, heavily disturbed wetlands are totally dominated by invasive plant species. These wetlands generally fall into Category 3. However, care must be taken to avoid adversely impacting small, intact wetland plant communities within an otherwise monotypic invasive plant community. In wetlands where intact native communities are located within a monotypic stand of invasive plants, the higher designation should be applied. The width of the protective area should be measured from the edge of the wetland.

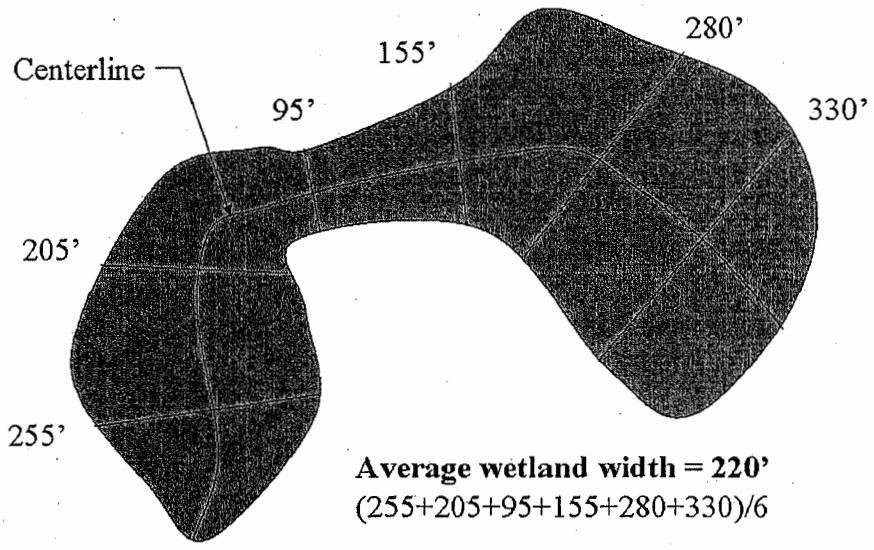
Also, some wetland plant communities may be altered by human modifications to change the character of the wetland. This is most commonly encountered in agricultural areas where drier wetlands are farmed. During certain times of the year, a wetland may be unvegetated or it may support non-wetland species, such as corn or soybeans. These areas are still considered wetlands if they are capable of supporting wetlands species in the absence of the human modification, such as the cessation of farming. The wetland should be classified on the basis of the plant community that would normally be supported in the absence of the disturbance. This can be determined using the disturbed area procedures in the 1987 US Army Corps of Engineers Wetland Delineation Manual.

Wetland Boundary Delineation

The 1987 Corps of Engineers Delineation Manual and subsequent guidance documents establish the standard and accepted techniques for identifying and delineating wetlands in Wisconsin. The Army Corps of Engineers Regulatory IV training manual contains all of the applicable guidance documents and training materials for making a determination. While many wetland determinations are clear and boundaries abrupt, disturbed or problem areas are common. Examples of these areas include farmed wetlands, seasonal wetlands (wetlands that do not have obvious wetland hydrology) and areas of sandy or lacustrine clay soils. It is advisable for qualified individuals with Regulatory IV training to make determinations in these difficult areas.

Attachment 1

Calculating Wetland Width



Average wetland width = 220'
(255+205+95+155+280+330)/6

Protective width = 10% x 220' = 22'

Attachment 2
Key to the Wetland Plant Communities

1A. Mature trees (diameter breast height [dbh] of 6 inches or more) are present and form closed stands (more than 17 trees per acre; more than a 50 percent canopy cover) on wet, lowland soils (usually floodplains and ancient lake basins).

2A. Hardwood trees are dominant; usually alluvial, peaty/mucky, or poorly drained mineral soils.

3A. Silver maple, American elm, river birch, green ash, black willow and/or eastern cottonwood are dominant; growing on alluvial soils associated with riverine systems.....**FLOODPLAIN FOREST**

3B. Black ash, yellow birch, silver maple and/or red maple are dominant; northern white cedar may be subdominant; growing on poorly drained mineral or peat/muck soils, often associated with ancient lake basins.
.....**HARDWOOD SWAMP**

2B. Coniferous trees are dominant; soils usually peaty.

4A. Tamarack and/or black spruce are dominant; growing on a continuous sphagnum moss mat and acid, peat soils.....**CONIFEROUS BOG**

4B. Northern white cedar and/or tamarack are dominant; continuous sphagnum moss mat absent; usually growing on neutral to alkaline peat/muck soils.
.....**CONIFEROUS SWAMP**

1B. Mature trees are absent or, if present, form open, sparse stands; other woody plants, if present, are shrubs or saplings and pole-size trees (dbh less than 6 inches) less than 20 feet high and growing on wet, lowland or poorly drained soils, or in groundwater seepage areas.

5A. Community dominated by woody shrubs.

6A. Low, woody shrubs usually less than 3 feet high; sphagnum moss mat layer may or may not be present.

7A. Shrubs are ericaceous and evergreen growing on a sphagnum moss mat layer; peat soils are acidic.....**OPEN BOG**

7B. Shrubs are deciduous, mostly shrubby cinquefoil, often growing on sloping sites with a spring-fed supply of internally flowing, calcareous waters; other calciphiles are also dominant; sphagnum moss mat layer absent; much/poorly drained mineral soils are alkaline.....**CALCAREOUS FEN**

6B. Tall, woody deciduous shrubs usually greater than 3 feet high; sphagnum moss mat layer absent.....**SHRUB SWAMPS**

8A. Speckled alder is dominant; usually on acidic soils in and north of the vegetation tension zone.....**ALDER THICKET**

8B. Willows, red-osier dogwood, silky dogwood, meadowsweet and/or steeplebush are dominant on neutral to alkaline poorly drained muck/mineral soils; found north and south of the vegetation tension zone.....**SHRUB-CARR**[1]

5B. Community dominated by herbaceous plants.

9A. Essentially closed communities, usually with more than 50 percent cover.

10A. Sphagnum moss mat on acid peat soils; leatherleaf, pitcher plants, certain sedges and other herbaceous species tolerant of low nutrient conditions may be present.....**OPEN BOG**

10B. Sphagnum moss mat absent; dominant vegetation consists of sedges (Cyperaceae), grasses (Poaceae), cattails, giant bur-reed, arrowheads forbs and/or calciphiles. Soils are usually neutral to alkaline poorly drained mineral soils and mucks.

11A. Over 50 percent of the cover dominance contributed by the sedge family, cattails, giant bur-reed, arrowheads, wild rice and/or giant reed grass (*Phragmites*).

12A. Herbaceous emergent plants growing on saturated soils to areas covered by standing water up to 6 inches in depth throughout most of the growing season.

13A. Major cover dominance by the sedges (primarily genus *Carex*).....**SEDGE MEADOW**

13B. Major cover dominance by cattails, bulrushes, water plantain, *Phragmites*, arrowheads and/or lake sedges.
.....**SHALLOW MARSH**

12B. Herbaceous submergent, floating and emergent plants growing in areas covered by standing water greater than 6 inches in depth throughout most of the growing season.....**DEEP MARSH**

[1]Buckthorns (*Rhamnus* spp.) may occur as dominant shrubs or small trees in disturbed shrub-carrs

11B. Over 50 percent of the cover dominance contributed by grasses (except wild rice and *Phragmites*), forbs and/or calciphiles.

14A. Spring-fed supply of internally flowing, calcareous waters, often sloping sites; calciphiles such as sterile sedge, wild timothy, Grass-of-Parnassus and lesser fringed gentian are dominant.....**CALCAREOUS FEN**

14B. Water source(s) variable; calciphiles not dominant.

15A. Soils saturated to inundated during the growing season; prairie grasses such as big bluestem, prairie cordgrass and/or Canada bluejoint grass are usually dominant, and various species of lowland prairie forbs are present.
.....**WET TO WET-MESIC PRAIRIE**

15B. Site rarely inundated, but soils are saturated for all or part of the growing season; dominated by forbs such as giant goldenrod and/or grasses such as redtop and reed canary grass.
.....**FRESH (WET) MEADOW**

9B. Essentially open communities; either flats or basins usually with less than 50 percent vegetative cover during the early portion of the growing season, or shallow open water with submergent, floating and/or floating-leaved aquatic vegetation.

16A. Areas of shallow, open water (to 6.6 feet in depth) dominated by submergent, floating and/or floating-leaved aquatic vegetation.
.....**SHALLOW, OPEN WATER COMMUNITIES**

16B. Shallow depressions or flats; standing water may be present for a few weeks each year but are dry for much of the growing season; often cultivated or dominated by annuals such as smartweeds and wild millet.
.....**SEASONALLY FLOODED BASIN**

Drafted by Patricia Ann Trochlell

Approved: _____ on 5/28/2004
Mary Ellen Vollbrecht, Section Chief *Date*

Approved: _____ on 5/28/2004
Michael Staggs, Bureau Director *Date*

Approved: _____ on 11/12/04 (rec'd 11/10/04)
Michael Cain, Legal Services *Date*

Approved: _____ on 6/2/04
Todd Ambs, Division Administrator *Date*